

Project No. A21535

Protocol Number: LZ01072116.TOW.11

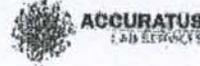
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**ACCURATUS**  
—LAB SERVICES—  
THE ANTIMICROBIAL AUTHORITY

(For Laboratory Use Only)	A21535
Accuratus Lab Services Project #	V-588-1116
Test Substrate/Protocol #	328116-1241
ppd	7-27-16



**PROTOCOL**

**Pre-Saturated Towelettes for Hard Surface Disinfection**

**Test Organism(s):**

*Streptococcus pyogenes* (ATCC 14288)

**PROTOCOL NUMBER**

LZ01072116.TOW.11

**PREPARED FOR/SPONSOR**

Lonza, Inc.  
1200 Bluegrass Lakes Parkway  
Alpharette, GA 30004

**PREPARED BY/TESTING FACILITY**

Accuratus Lab Services  
1285 Corporate Center Drive, Suite 110  
Eagan, MN 55121

**DATE**

July 21, 2016

**PROPRIETARY INFORMATION**

THIS DOCUMENT IS THE PROPERTY OF AND ACCURATUS LAB SERVICES CONTAINS PROPRIETARY INFORMATION OF ACCURATUS LAB SERVICES. NEITHER THIS DOCUMENT, NOR INFORMATION CONTAINED HEREIN IS TO BE REPRODUCED OR DISCLOSED TO OTHERS, IN WHOLE OR IN PART, NOR USED FOR ANY PURPOSE OTHER THAN THE PERFORMANCE OF THIS WORK ON BEHALF OF THE SPONSOR, WITHOUT PRIOR WRITTEN PERMISSION OF ACCURATUS LAB SERVICES.

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INITIALS ~~DATE~~ DATE 8/26/16



### Pre-Saturated Towelettes for Hard Surface Disinfection

#### PURPOSE

The purpose of this assay is to determine the efficacy of the Sponsor's pre-saturated towelette as a hard surface disinfectant. This method is in compliance with the requirements of and may be submitted to, one or more of the following agencies as indicated by the Sponsor: U.S. Environmental Protection Agency (EPA), Health Canada and Australian Therapeutic Goods Administration (TGA).

#### TEST SUBSTANCE CHARACTERIZATION

According to 40 CFR, Part 160, Subpart F (160.105) test substance characterization as to identity, strength, purity, solubility and composition, as applicable, shall be documented before its use in this study. The stability of the test substance shall be determined prior to or concurrently with this study. Pertinent information, which may affect the outcome of this study, shall be communicated in writing to the Study Director upon sample submission to Accuratus Lab Services. Accuratus Lab Services will append Sponsor-provided Certificates of Analysis (COA) to this study report, if requested and supplied. Characterization and stability studies not performed following GLP regulations will be noted in the Good Laboratory Practice compliance statement.

#### SCHEDULING AND DISCLAIMER OF WARRANTY

Experimental start dates are generally scheduled on a first-come/first-serve basis once Accuratus Lab Services receives the Sponsor approved/completed protocol, signed fee schedule and corresponding test substance(s). Based on all required materials being received at this time, the proposed experimental start date is August 8, 2016. Verbal results may be given upon completion of the study with a written report to follow on the proposed completion date of September 5, 2016. To expedite scheduling, please be sure all required paperwork and test substance documentation is complete/accurate upon arrival at Accuratus Lab Services.

If a test must be repeated, or a portion of it, due to failure by Accuratus Lab Services to adhere to specified procedures, it will be repeated free of charge. If a test must be repeated, or a portion of it, due to failure of internal controls, it will be repeated free of charge. "Methods Development" fees shall be assessed, however, if the test substance and/or test system require modifications due to complexity and difficulty of testing.

If the Sponsor requests a repeat test, they will be charged for an additional test. Neither the name of Accuratus Lab Services nor any of its employees are to be used in advertising or other promotion without written consent from Accuratus Lab Services.

The Sponsor is responsible for any rejection of the final report by the regulatory agencies concerning report format, pagination, etc. To prevent rejection, Sponsor should carefully review the Accuratus Lab Services final report and notify Accuratus Lab Services of any perceived deficiencies in these areas before submission of the report to the regulatory agency. Accuratus Lab Services will make reasonable changes deemed necessary by the Sponsor, without altering the technical data.

#### JUSTIFICATION FOR SELECTION OF THE TEST SYSTEM

Regulatory agencies require that a specific organism claim for a test substance intended for use on hard surfaces be supported by appropriate scientific data demonstrating the efficacy of the test substance against the claimed organism. This is accomplished by treating the target organism with the test substance under conditions which simulate as closely as possible, in the laboratory, the actual conditions under which the test substance is designed to be used. For towelette products intended for use on hard surfaces (dry, inanimate environmental surfaces), a carrier method is used in the generation of the supporting data. The experimental design in this protocol meets these requirements following a modification of the AOAC Germicidal Spray Method with procedural guidance from the ASTM E 2382 Evaluation of Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection Method.



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**TEST PRINCIPLE**

A film of organism cells dried on a surface of glass carriers is wiped with the towelette and exposed to the test substance for a specified exposure time. After exposure, the glass carriers are transferred to vessels containing rehydrating subculture media and assayed for survivors. Appropriate culture purity, sterility, viability, neutralization-confirmation and carrier population controls are performed. The current revision of Standard Operating Procedure CGT-0033 reflects the methods which may be used in this study.

**TEST METHOD**

Table 1:

Test Organism	Designation #	Growth Medium	Incubation Parameters
<i>Streptococcus pyogenes</i>	14289	Tryptic Soy Agar with 5% Sheep Blood (BAP)	36-37°C, in CO <sub>2</sub>

The test organism(s) to be used in this study was/were obtained from the American Type Culture Collection (ATCC), Manassas, VA.

**Recovery Agar Medium:** Tryptic Soy Agar + 5% Sheep's Blood (BAP)

**Carriers**

Three inch by one inch clean glass slides will be placed in a vessel and sterilized in a hot air oven for 22 hours at 2180°C. One sterile glass slide will be transferred into a sterile Petri dish matted with 2 pieces of filter paper.

**Preparation of Test Organism**

A culture of the test organism is prepared by using a stock culture to inoculate multiple agar plates and incubating for 2-3 days under the conditions listed above. Following incubation an organism suspension will be prepared in Fluid Thioglycolate Medium to target  $1 \times 10^8$  CFU/ml. A minimum spec value of approximately 1.1-1.3 at 620 nm is recommended. An organic soil load will be added to the test culture, per Sponsor's request. The final test culture will be mixed thoroughly prior to use.

**Contamination of Carriers**

The glass slide carriers will each be inoculated with 0.01 mL (10 µL) culture, using a 4 mm loop or calibrated pipettor uniformly spreading the culture over an approximate 1 inch x 1 inch area on the end of the slide in a Petri dish. The dish will be covered immediately and the procedure repeated until all slides have been inoculated. The culture will be vortex mixed periodically during inoculation as necessary. The carriers will be dried for 30-40 minutes. Organisms not specifically mentioned in the AOAC methodology may require modified drying conditions for the purpose of obtaining maximum survival following drying. The actual drying conditions and observations noting that the carriers were visibly dry at the completion of drying will be clearly documented. Carriers shall be used in the test procedure within 2 hours of drying.

Drying Conditions: 25-30°C at 20% relative humidity.

**Preparation of Test Substance**

Towelettes saturated with test substance are supplied by sponsor. The recommended procedure for folding the towelette is to fold the towelette in half lengthwise twice and roll the towelette up five times. Alternate folding procedures may be followed when the towelette cannot be folded in this manner as appropriate.

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**Exposure Conditions**

One towlette will be used to wipe the contaminated portions of up to 10 carriers. The area of the towlette used will be rotated so as to expose a maximum amount of the towlette surface during the course of the wiping procedure. Additional towlettes may be used as necessary to treat the number of carriers specified by the Sponsor. Contact with the towlette and/or test substance will be maintained for an exposure time and under conditions specified by the Sponsor. The wiping procedure will be performed at staggered intervals to allow for the prescribed exposure period. The procedure will be performed within  $\pm 5$  seconds of the exposure time for exposure times above 1 minute following a calibrated timer. The procedure will be performed within  $\pm 3$  seconds of the exposure time for exposure times of  $\leq 1$  minute. If the exposure conditions are compromised in any way for a given carrier, a new carrier may be treated in its place. If this cannot be done, the carrier will be marked and the compromised carrier will be identified in the raw data. If a marked carrier demonstrates a positive result, the carrier set may be invalidated and repeated by Sponsor request.

**Test System Recovery**

Each treated carrier will be held at room temperature for the desired exposure time in a horizontal and undisturbed fashion. At the end of the exposure time, the excess liquid will be drained off the carrier without touching the carrier to the Petri dish or filter paper. Each treated carrier will then be transferred using sterile forceps at staggered intervals to a volume of neutralizing subculture medium sufficient to completely cover the inoculated and treated area (e.g. 20 mL in 38 mm tubes). Shake the vessel thoroughly. If necessary, carriers will be transferred into individual secondary subcultures containing neutralizing subculture medium within approximately 25-30 minutes of the initial transfer. Shake the vessel thoroughly.

**Incubation and Observation**

All subcultures are incubated under the conditions listed in table 1 for 2-4 days.

Following incubation, the subcultures will be visually examined for growth. If necessary, the subcultures may be placed at 2-8°C for up to three days prior to examination.

Representative subcultures showing growth will be subcultured, stained and/or biochemically assayed to confirm or rule out the presence of the test organism. If growth cannot be determined visually, appropriate test and/or control subcultures may be streaked to agar to determine the presence or absence of growth.

**STUDY CONTROLS****Purity Control**

A "streak plate for isolation" will be performed on the organism culture and following incubation examined in order to confirm the presence of a pure culture. The acceptance criterion for this study control is a pure culture demonstrating colony morphology typical of the test organism.

**Organic Soil Sterility Control**

Prior to or concurrent with testing, the serum used for the organic soil load will be cultured, incubated, and visually examined for growth. The acceptance criterion for this study control is lack of growth.

**Carrier Sterility Control**

Prior to or concurrent with testing, a representative uninoculated carrier will be added to an appropriate subculture medium. The subculture medium containing the carrier will be incubated and visually examined for growth. The acceptance criterion for this study control is lack of growth.

**Neutralizing Subculture Medium Sterility Control**

Prior to or concurrent with testing, a representative sample of uninoculated neutralizing subculture medium will be incubated and visually examined. The acceptance criterion for this study control is lack of growth.

**Viability Control**

One representative inoculated carrier will be added to a vessel containing each type of subculture medium. If secondary subcultures are performed using a different media type, one carrier will be placed in the primary subculture medium and one carrier will be placed in the secondary subculture medium. The vessels containing each carrier will be incubated and visually examined for growth. The acceptance criterion for this study control is growth in the subculture media.

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#### Neutralization Confirmation Control

The neutralization of the test substance will be confirmed prior to testing or concurrent with testing by exposing at least one sterile carrier to the test substance and transferring the carrier to primary subcultures containing neutralizing subculture medium as in the test. If performed in the test procedure, each carrier will then be transferred from primary subcultures into individual secondary subcultures beginning approximately 26-60 minutes following the primary transfer. The subcultures (primary and secondary as applicable) will be inoculated with a target of 10-100 colony forming units (CFU) of each test organism, incubated under test conditions and visually examined for the presence of growth. This control will be performed with multiple replicates using different dilutions of the test organism. A standardized spread plate procedure will be run concurrently in order to enumerate the number of CFU actually added per vessel. NOTE: Only the most concentrated test substance dilution and/or shortest exposure time needs to be evaluated in this control.

The acceptance criterion for this study control is growth in the final subculture broth, minimally, following inoculation with  $\leq 100$  CFU per vessel, if all the organism dilution(s) used in this control fail to provide adequate numbers (10-100 CFU) which coincides in a failure to meet the acceptance criterion for this study control, the control may be repeated in its entirety.

#### Carrier Population Control

Two sets of three inoculated carriers (one set prior to testing and one set following treatment) for each organism carrier set will be assayed. Each inoculated carrier will be individually subcultured into a vessel containing 20 mL of neutralizing subculture medium. Immediately vortex mix for 120 $\pm$ 5 seconds. Following mixing, the contents of the three subcultured carriers will be pooled (60 mL). Appropriate serial ten-fold dilutions will be prepared and duplicate 0.1 mL aliquots will be spread plated on agar plate medium, and incubated. If serial dilutions are not performed and plated immediately following mixing, the vessels may be refrigerated at 2-8°C for up to 2 hours prior to dilution. Following incubation, the resulting colonies will be enumerated. The individual CFU per carrier set results will be calculated, and the Log<sub>10</sub> value of each carrier set determined. The average Log<sub>10</sub> value per organism will be calculated. The acceptance criterion for this study control is a minimum average Log<sub>10</sub> value of 4.0.

#### PROCEDURE FOR IDENTIFICATION OF THE TEST SYSTEM

Accuratus Lab Services maintains Standard Operating Procedures (SOPs) relative to efficacy testing studies. Efficacy testing is performed in strict adherence to these SOPs which have been constructed to cover all aspects of the work including, but not limited to, receipt, log-in, and tracking of biological reagents including test organism strains for purposes of identification, receipt and use of chemical reagents. These procedures are designed to document each step of efficacy testing studies. Appropriate references to medium, batch number, etc. are documented in the raw data collected during the course of each study.

Additionally, each efficacy test is assigned a unique Project Number when the protocol for the study is initiated by the Study Director. This number is used for identification of the test subcultures, etc. during the course of the test. Test subcultures are also labeled with reference to the test organism, experimental start date, and test product. Microscopic and/or macroscopic evaluations of positive subcultures are performed in order to confirm the identity of the test organism. These measures are designed to document the identity of the test system.

#### METHOD FOR CONTROL OF BIAS: NA



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**STUDY ACCEPTANCE CRITERIA:**

**Test Substance Performance Criteria**

The efficacy performance requirements for label claims state that the test substance must kill the microorganism on 10 out of the 10 inoculated carriers.

**Control Acceptance Criteria**

The study controls must perform according to the criteria detailed in the study controls description section. If any of the control acceptance criteria are not met, the test may be repeated under the current protocol number.

Any positive test carriers confirmed as a contaminant will be reported. Any test carrier set that demonstrates a number of contaminated tubes that contributes to results that exceed the product performance/success criteria may be invalidated per Sponsor's request and may be re-tested.

If any portion of the protocol is executed incorrectly warranting repeat testing, the test may be repeated under the current protocol number. If the population control fails to meet the minimum requirement or if the neutralization control acceptance criteria is not met and the study fails to meet the efficacy requirements, repeat testing is not required.

**REPORT**

The report will include, but not limited to, identification of the sample, date received, dates on which the test was initiated and completed, identification of the organism strains used, description of media and reagents, description of the methods employed, tabulated results and conclusion as it relates to the purpose of the test, and all other items required by 40 CFR Part 160.185.

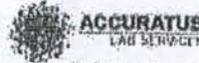
**PROTOCOL CHANGES**

If it becomes necessary to make changes in the approved protocol, the revision and reasons for changes will be documented, reported to the Sponsor and will become a part of the permanent file for that study. Similarly, the Sponsor will be notified as soon as possible whenever an event occurs that may have an effect on the validity of the study.

Standard operating procedures used in this study will be the correct effective revision at the time of the work. Any minor changes to SOPs (for this study) or methods used will be documented in the raw data and approved by the Study Director.



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Lonza, Inc.  
Page 7 of 12**TEST SUBSTANCE RETENTION**

It is the responsibility of the Sponsor to retain a sample of the test substance. All unused test substance will be discarded following study completion unless otherwise indicated by Sponsor.

**RECORD RETENTION****Study Specific Documents**

All of the original raw data developed exclusively for this study shall be archived at Accuratus Lab Services for a minimum of five years for GLP studies or a minimum of six months for all other studies following the study completion date. After this time, the Sponsor (or the Sponsor Representative, if applicable) will be contacted to determine the final disposition. These original data include, but are not limited to, the following:

1. All handwritten raw data for control and test substances including, but not limited to, notebooks, data forms and calculations.
2. Any protocol amendments/deviation notifications.
3. All measured data used in formulating the final report.
4. Memoranda, specifications, and other study specific correspondence relating to interpretation and evaluation of data, other than those documents contained in the final study report.
5. Original signed protocol.
6. Certified copy of final study report.
7. Study-specific SOP deviations made during the study.

**Facility Specific Documents**

The following records shall also be archived at Accuratus Lab Services. These documents include, but are not limited to, the following:

1. SOPs which pertain to the study conducted.
2. Non study-specific SOP deviations made during the course of this study which may affect the results obtained during this study.
3. Methods which were used or referenced in the study conducted.
4. QA reports for each QA inspection with comments.
5. Facility Records: Temperature Logs (ambient, incubator, etc.), Instrument Logs, Calibration and Maintenance Records.
6. Current curriculum vitae, training records, and job descriptions for all personnel involved in the study.

**REFERENCES**

1. U.S. Environmental Protection Agency Efficacy Data Requirements, Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection, Single-Use Towelettes.
2. Association of Official Analytical Chemists (AOAC) Official Method 961.02, Germicidal Spray Products as Disinfectants. In Official Methods of Analysis of the AOAC, 2012 Edition.
3. American Society for Testing and Materials (ASTM). Standard Practice for Evaluation of Pre-Saturated or Impregnated Towelettes for Hard Surface Disinfection method E2392-15.
4. U.S. Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention, Product Performance Test Guidelines, OCSPP 810.2000: General Considerations for Uses of Antimicrobial Agents, September 4, 2012.
5. U.S. Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention, Product Performance Test Guidelines, OCSPP 810.2200: Disinfectants for Use on Hard Surfaces- Efficacy Data Recommendations, September 4, 2012.
5. Health Canada, January, 2014. Guidance Document – Safety and Efficacy Requirements for Hard Surface Disinfectant Drugs.
7. Health Canada, January, 2014. Guidance Document - Disinfectant Drugs.
6. Australian Therapeutic Goods Administration (TGA), February 1998. Guidelines for the Evaluation of Sterilants and Disinfectants.
9. Australian Therapeutic Goods Administration (TGA), February 1998. Therapeutic Goods Order No. 54: Standard for Disinfectants and Sterilants.
10. Australian Therapeutic Goods Administration (TGA), March 1997. Therapeutic Goods Order No. 54A: Amendment to the Standard for Disinfectants and Sterilants (TGO 54).

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**DATA ANALYSIS**

**Calculations**

Determine the CFU/Carrier set in the Carrier Population Control using all average counts between 0-300 CFU as follows:

$$\text{CFU/carrier} = \frac{[(\text{avg. CFU for } 10^{-4}) + (\text{avg. CFU for } 10^{-7}) + (\text{avg. CFU for } 10^{-9})] \times (\text{Volume of neutralizer})}{(10^{-4} + 10^{-7} + 10^{-9}) \times (\text{Volume plated}) \times (\# \text{ of carriers per set})}$$

where  $10^{-4}$ ,  $10^{-7}$ , and  $10^{-9}$  are example dilutions that may be used

$$\text{Average Log}_{10} \text{ Carrier Population Control} = \frac{\log_{10} X_1 + \log_{10} X_2 + \dots + \log_{10} X_N}{N}$$

Where: X equals CFU/carrier set  
N equals number of control carrier sets

**Statistical Analysis**  
None Used



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### Study Information

(All blank sections are completed by the Sponsor or Sponsor Representative as listed to their signature, unless otherwise noted)  
 Test Substance (Name & Batch Numbers) exactly as it should appear on final report:

Lonza Disinfectant Wipes Patches 6039-133H and 6039-134L

#### Product Description:

- Quaternary ammonia       Peracetic acid  
 Iodophor                       Peroxide  
 Sodium hypochlorite       Other \_\_\_\_\_

#### Approximate Test Substance Active Concentration (upon submission to Accuratus Lab Services):

6039-133H, Quat = 0.223% and 6039-134L, Quat = 0.218%

(This value is used for neutralization planning only. This value is not intended to represent characterization values.)

#### Neutralization/Subculture Broth:

- \_\_\_\_\_  
 (NOTE: All broth must also serve as an appropriate growth medium for the test organism)  
 Accuratus Lab Services' Discretion. By checking, the Sponsor authorizes Accuratus Lab Services, at their discretion, to perform neutralization confirmation assays at the Sponsor's expense prior to testing to determine the most appropriate neutralizer. (See Fee Schedule).

#### Storage Conditions:

- Room Temperature  
 2-8°C  
 Other: \_\_\_\_\_

#### Hazards:

- None known; Use Standard Precautions  
 Material Safety Data Sheet, Attached for each product  
 As follows: \_\_\_\_\_

#### Product Preparation

- No dilution required, Use as received (RTU)  
 \* Dilution(s) to be tested:

- defined as \_\_\_\_\_ + \_\_\_\_\_  
 (example: 1 oz/gallon)      (amount of test substance)      (amount of diluent)  
 Deionized Water (Filter or Autoclave Sterilized)  
 Tap Water (Filter or Autoclave Sterilized) - All tap water is softened; the water hardness for the batch of tap water used will be determined and reported.  
 AOAC Synthetic Hard Water: \_\_\_\_\_ PPM  
 Other: \_\_\_\_\_

\*Note: An equivalent dilution may be made unless otherwise requested by the Sponsor.

Test Organism:  *Streptococcus pyogenes* (ATCC 14289)

Carrier Number: 10 per batch

Exposure Time: 8 minutes 45 seconds Exposure Temperature: Room Temperature (18-25°C)

Wiping Procedure:  Typical: Each carrier will be treated by wiping the inoculated area of the slide with the towlette over and back, 2 (#) times for a total of 4 (#) passes. (i.e. over and back 2 times equals a total of 4 passes)

Other: \_\_\_\_\_

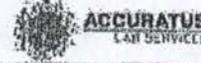
#### Organic Soil Load:

- Minimum 5% Organic Soil Load (Fetal Bovine Serum)  
 No Organic Soil Load Required  
 Other: \_\_\_\_\_

Form: 203-7P

Wiping/Neutralization

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**TEST SUBSTANCE SHIPMENT STATUS**

*(This section is for informational purposes only.)*

- Test Substance ~~is already present~~ at Accuratus Lab Services.
- Test Substance ~~has been or will be shipped~~ to Accuratus Lab Services.  
Date of expected receipt at Accuratus Lab Services: July 22, 2016
- Test Substance to be hand-delivered (must arrive by noon at least one day prior to testing or other arrangements made with the Study director).

**COMPLIANCE**

Study to be performed under EPA Good Laboratory Practice regulations (40 CFR Part 160) and in accordance to standard operating procedures.

- Yes
- No (Non-GLP or Development Study)

**REGULATORY AGENCY(S) THAT MAY REVIEW DATA**

- U.S. EPA
- Health Canada
- Therapeutic Goods Administration (Australian TGA)

**PROTOCOL MODIFICATIONS**

- Approved without modification
- Approved with modification  
Treatment of the test centers should begin within about 20 minutes after drying.

**PROTOCOL ATTACHMENTS**

Supplemental Information Form Attached -  Yes  No



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**TEST SUBSTANCE CHARACTERIZATION & STABILITY TESTING**

[Verification required per 40 CFR Part 160 Subpart B (160.31(d))].

 Characterization/Stability testing is not required (For Non-GLP or Development testing only)

OR

Physical and Chemical Characterization (Identity, purity, strength, solubility, as applicable) of the test lots Physical & Chemical Characterization has been or will be completed prior to efficacy testing.GLP compliance status of physical & chemical characterization testing: Testing was or will be performed following 40 CFR Part 160 GLP regulations Characterization has not been or will not be performed following GLP regulationsCheck and complete the following that apply: A Certificate of Analysis (C of A) may be provided for each lot of test substance. If provided, the C of A will be appended to the report. Testing has been or will be conducted at Accuratus Lab Services under protocol or study #: Test has been or will be conducted by another facility under protocol or study #: Physical & Chemical Characterization was not or will not be performed prior to efficacy testing.Stability Testing of the formulation: Stability testing has been or will be completed prior to or concurrent with efficacy testing.GLP compliance status of stability testing:*(GLP compliance is required by 40 CFR Part 160)* Testing was or will be performed following 40 CFR Part 160 GLP regulations Stability testing has not been or will not be performed following GLP regulationsCheck and complete the following that apply: Testing has been or will be conducted at Accuratus Lab Services under protocol or study #: Test has been or will be conducted by another facility under protocol or study #: Stability testing was not or will not be performed prior to or concurrent with efficacy testing.*If test substance characterization or stability testing information is not provided or is not performed following GLP regulations, this will be indicated in the GLP compliance statement of the final report.*

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APPROVAL SIGNATURES

**SPONSOR:**

NAME: Ms. Milady Brufolsky TITLE: Research Microbiology  
SIGNATURE: *M Brufolsky* DATE: 7/26/16  
PHONE: (678) 624 - 5955 FAX: (201) 696 - 3615 EMAIL: milady.brufolsky@lonza.com

*For confidentiality purposes, study information will be released only to the sponsor/representative signing the protocol (above) unless other individuals are specifically authorized in writing to receive study information.*

*Other individuals authorized to receive information regarding this study:*  See Attached

**ACCURATUS LAB SERVICES:**

NAME: Carrie K Bauer  
Study Director  
SIGNATURE: *C K Bauer* DATE: 8/10/16  
Study Director